

### **REMARKS**

This is a full and timely response to the final Office Action of January 20, 2004. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this Third Response, claims 1-14, 16, 17, and 19-37 remain pending in this application. Claims 27 and 34 are directly amended herein. It is believed that the foregoing amendment adds no new matter to the present application. Further, the amendments to claims 27 and 34 correct for recently discovered errors of a minor nature. It is believed that the amendments place the application in a better form for issuance or appeal and do not require a new search by the Examiner. Entry of the amendments to claims 27 and 34 is respectfully requested pursuant to 37 C.F.R. §1.116.

### **Response to Double Patenting Rejections**

Claims 1, 2, 6-8, 11, and 12 stand provisionally rejected in the Office Action under the judicially created doctrine of provisional obviousness-type double patenting as purportedly being unpatentable over claims 1, 7, 11, and 12 of copending Application No. 09/715,253 ("the '253 application"). Further, claims 3-5, 9, 10, 13, and 14 stand provisionally rejected in the Office Action under the judicially created doctrine of provisional obviousness-type double patenting as purportedly being unpatentable over claims 4, 7, and 9 of copending Application No. 09/715,335 ("the '335 application"). Applicants respectfully assert that a double patenting rejection based on a copending application is improper until such application issues into a patent. Thus, Applicants request that the instant application be allowed to issue, notwithstanding the '253 and '335 applications, once the instant application is otherwise within a condition for allowance pursuant to M.P.E.P. §822.01.

### **Response to §103 Rejections**

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). In addition, “(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness.” *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Further, a reference “teaches away” from the claimed invention and should not be used to reject the claimed invention under 35 U.S.C. §103 “when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994). Moreover, “(o)bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so.” *ACS Hospital Systems, Inc., v. Montefiore Hospital*, 732 F.2d 1572, 1577; 221 U.S.P.Q. 929, 933 (Fed Cir. 1984).

#### **Claim 1**

Claim 1 presently stands rejected under 35 U.S.C. §103 as purportedly being obvious to *MacInnis* (U.S. Patent No. 6,573,905) in view of *Computer Wall II*, RGB Spectrum, Inc. Specifications, 950 Marina Village Parkway, Alameda, CA 94501, 9/2000, <http://www.rgb.com/Webpages/prodpgs/cwall.html> (hereinafter referred to as “*Computer Wall II*”), *Firester* (U.S. Patent No. 6,611,241), *Pesto* (U.S. Patent No. 6,518,971), *Kohli* (U.S. Patent

No. 6,252,600), and *Deering* (U.S. Patent No. 6,496,186). Applicants respectfully assert that the Office Action fails to establish a sufficient motivation for combining six different references in order to render pending claim 1 obvious. Indeed, Applicants assert that the use of such a large number of references to reject pending claim 1 is indicative of non-obviousness. *Racal-Vadic, Inc. v. Universal Data Systems*, 207 U.S.P.Q. 902 (N. Dist. Ala. 1980).

Further, Applicants assert that the cited references teach away from one another, and the alleged combination is improper for at least this reason. In particular, *Pesto* teaches that a “strip breaker” 400 divides polygon strips such that multiple parallel “processors” 404 can render different vertices of the same polygon strip. See Figure 4 and column 4, lines 1-37. Further, *Deering* teaches that a “control unit 140” may split and route a data stream to “rendering units 150 A-D.” See Figure 3 and column 11, lines 25-27. However, in contrast to such teachings, *MacInnis* specifically teaches that the alleged “graphical pipelines 2740 A-D” operate “independent” of one another and, notably, render graphical data for different windows such that a graphical data stream for a particular window is rendered by only one of the “graphical pipelines 2740 A-D.” See Column 112, lines 24-40. Thus, *MacInnis* teaches against *Pesto* and *Deering*, and it is improper to combine these references to render claim 1 unpatentable under 35 U.S.C. §103. “It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965).

In an apparent attempt to justify combining *Computer Wall II* with *MacInnis*, it is alleged in the Office Action that:

“RGB Spectrum Specification is evidence that, at the time of the invention, it would have been obvious for someone skilled in the art of graphical and video data digital processing to combine the benefits of interfacing, pipeline processing using multiple pipelines and video compositing, as *MacInnis* discloses, with

multiple displays, as the RGB Spectrum Specification teaches, to provide for large video walls for data assessment and decision making.”

Applicants respectfully traverse the foregoing Office Action assertion. In this regard, the alleged “graphical pipelines” of *MacInnis* render graphical data for a single display, and the alleged “video compositing” in *MacInnis* appears to blend pixel values from multiple alleged “graphical pipelines” to create a single image for a single display device. See Figure 69, column 97, lines 20-26 and column 112, lines 24-27. There is absolutely nothing in *Computer Wall II* to provide a motivation for using the multiple “graphical pipelines” and “video compositing” used by *MacInnis*. Indeed, in examining the displays depicted on page 2 of *Computer Wall II*, it appears that each display unit displays a single non-composited image. Thus, Applicants respectfully traverse the Office Action allegation that *Computer Wall II* “is evidence that, at the time of the invention, it would be obvious for someone skilled in the art of graphical and video data digital display processing to combine the benefits of interfacing, pipeline processing using multiple pipelines and video compositing, as *MacInnis* discloses, with multiple displays” as *Computer Wall II* discloses. By failing to provide a sufficient motivation for combining *MacInnis* and *Computer Wall II*, Applicants submit that the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 1.

In an apparent attempt to justify the alleged combination of *MacInnis* and *Kohli*, it is alleged in the Office Action that “(t)he motivation for combining parallel pipeline pixel processing with a 2D and 3D graphical context command (in an X-Windows environment) is to enable context switching management of the 3D-to-2D and 2D-to-3D rendering requirements while using 3D clients.” However, there is nothing in *MacInnis* to indicate that it would be desirable to enable “context switching.” In this regard, *Kohli* shows two separate streams, a 2D stream and a 3D stream, and a FIFO sequencer 39 may be switched between the 2D and 3D streams to provide context switching. See Figure 3 and column 4, lines 46-67. However,

*MacInnis* does not appear to show separate streams for 2D and 3D graphical data, and the Office Action fails to establish a reason or need for context switching management within the system described by *MacInnis*. Accordingly, the Office Action fails to establish an adequate reason for combining *MacInnis* with *Kohli*.

Applicants further submit that similar arguments can be made against the combination of *MacInnis* with *Pesto* and *Firester*. For at least the foregoing reasons, Applicants assert that the alleged combination of *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering* is improper. Therefore, the 35 U.S.C. §103 rejection of claim 1 should be withdrawn.

#### **Claims 2-6, 16, 17, and 26-30**

Claims 2-4, 16, and 26-30 presently stand rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. Furthermore, claims 5 and 6 presently stand rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Jenkins* (U.S. Patent No. 6,111,582), and *Deering*. In addition, claim 17 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II* in further view of *Deering* and *Dachille* (GI-Cube: An Architecture for Volumetric Global Illumination and Rendering, SIGGRAPH/ EUROGRAPHICS Workshop on Graphics Hardware, August 200, interlaken Switzerland, ACM Press, NY, NY, pages 119-128). Applicants submit that the pending dependent claims 2-6, 16, 17, and 26-30 contain all features of their respective independent claim 1. Further, Applicants assert that *Jenkins* and *Dachille* do not satisfy the deficiencies of the cited art discussed above with reference to claim 1. Therefore, claim 1 is allowable, and pending dependent claims 2-6, 16, 17, and 26-30 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite

patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 1.

As an example, claim 2 reads as follows:

2. The system of claim 1, wherein:  
***said first graphical pipeline is configured to mathematically combine a first offset with coordinate values included in said graphical data rendered by said first graphical pipeline;***  
***said second graphical pipeline is configured to mathematically combine a second offset with coordinate values included in graphical data rendered by said second graphical pipeline;*** and  
said compositor is configured to blend color values associated with corresponding coordinate values within said graphical data rendered by said first and second graphical pipelines. (Emphasis added).

Applicants respectfully assert that the cited art fails to suggest at least the features of claim 2 highlighted hereinabove. In this regard, it is alleged in the Office Action that *MacInnis* discloses “said first graphical pipeline is configured to mathematically combine a first offset (*upper and lower layers*, Column 48, line 35 through Column 49, line 10) with coordinate values...” The cited portions of *MacInnis* teach combining an alpha value with Y, U, and V values. However, the Y, U, and V values appear to represent color values and, in particular, do not appear to represent “coordinate values.” Thus, the Office Action fails to establish that the alleged combination teaches at least the features of claim 2 highlighted above. Accordingly, the 35 U.S.C. §103 rejection of claim 2 should be withdrawn, notwithstanding the allowability of independent claim 1.

In addition, claim 17 presently reads as follows:

17. The system of claim 2, ***wherein said first and second graphical pipelines, by respectively combining said first and second offsets with coordinate values*** in said graphical data rendered by said first and second graphical pipelines, offsets an image defined by said graphical data rendered by said first graphical pipeline with respect to an image defined by said graphical data rendered by said second graphical pipeline such that said compositor defines a jitter enhanced image by blending said color values. (Emphasis added).

Applicants respectfully assert that the cited art fails to suggest at least the features of claim 17 highlighted hereinabove.

In rejecting claim 17, it is asserted in the Office Action that “MacInnis does not explicitly disclose wherein said compositor defines a jitter enhanced image... Deering teaches supersampling and filtering in the context of Applicant’s specification... but does not use the term ‘jitter’.” *Deering* teaches that “rendering units 150 A-D” super-sample an image such that multiple sample pixels are generated from the same pixel. For example, in super-sampling an image to four times its original size, four sample pixels may be generated from a single pixel. In such an example, each of the sample pixels has a coordinate slightly different than the original coordinate of the original pixel or, in other words, is slightly offset with respect to the original pixel. However, there is nothing in *Deering* to suggest that such an “offset” is achieved by “**combining**” an “offset” with a “coordinate value,” as described by claim 17. Thus, the Office Action fails to establish that the cited art suggests at least the features of claim 17 highlighted hereinabove, and the 35 U.S.C. §103 of claim 17 should be withdrawn, notwithstanding the allowability of independent claim 1.

Further, claim 26 reads as follows:

26. The system of claim 1, wherein said at least one graphical acceleration unit comprises ***an interface coupled to said first graphical pipeline via a first local area network (LAN) connection and coupled to said second graphical pipeline via a second LAN connection, said interface of said at least one graphical acceleration unit configured to transmit said graphical command to said first and second graphical pipelines via said first and second LAN connections.*** (Emphasis added).

Applicants respectfully assert that the cited art fails to suggest at least the features of claim 26 highlighted hereinabove.

In this regard, it is alleged in the Office Action that:

“[Claim 26, 31, 34, 36] MacInnis does not disclose graphical acceleration unit comprises an interface couples to first and second pipeline via a first and second local area network (LAN), said interface transmits graphical command to pipelines. Firester teaches comprises an interface coupled to first and second pipeline via a first and second local area network (LAN), said interface transmits graphical command to pipelines (Column 18, lines 6-13).”

Figures 18 and 19 of *Firester* show a network connection 752 that is coupled to a network interface 728. However, the network interface 728 is coupled to other components of the display processor 720 via a computer bus 730, and there is nothing in *Firester* to suggest that the computer bus 730 comprises any “LAN connections.” Thus, while the network interface 728 appears to *receive* graphical data over a network connection 728, there is nothing in *Firester* to indicate that the network interface 728 *transmits* a “graphical command” via a “first LAN connection” and a “second LAN connection” to a “first graphical pipeline” and a “second graphical pipeline” that are both interfaced with the same “compositor,” as described by claim 26. Accordingly, the Office Action fails to establish that the alleged combination teaches each feature of claim 26, and the 35 U.S.C. §103 rejection of claim 26 should be withdrawn, notwithstanding the allowability of independent claim 1.

In addition, claim 28 presently reads as follows:

28. The system of claim 1, wherein said graphical command defines an image to be displayed by said one display device interfaced with said compositor, and ***wherein said graphical data rendered by said first graphical pipeline entirely defines said image to be displayed by said one display device interfaced with said compositor.*** (Emphasis added).

Applicants respectfully submit that several of the references of the cited art teach against at least the features of claim 28 highlighted hereinabove and, therefore, should be not be used to reject claim 28 under 35 U.S.C. §103.



For example, each of the alleged “graphical pipelines” in *MacInnis* is used to “independently” render graphical data for a different window of an image to be displayed by a display device. Accordingly, each “graphical pipeline” does not render the entire image displayed in *MacInnis*. Such a configuration teaches against the recited claim elements where a “first graphical pipeline” and a “second graphical pipeline” are both interfaced with a “compositor” that is also interfaced with a “display device,” wherein the “graphical data rendered by said first graphical pipeline *entirely defines* said image to be displayed” by the display device. (Emphasis added). Thus, upon reading *MacInnis*, one of ordinary skill in the art would be discouraged from following the path taken by Applicants, and Applicants submit that it is improper to use *MacInnis* to reject pending claim 28 under 35 U.S.C. §103.

In addition, *Pesto* teaches breaking a polygon strip into multiple substrips that can be separately processed by different “processors.” See Figure 4 and column 4, lines 1-37. In such a configuration, each “processor” appears to render only a portion of the overall image displayed by a display device. Further, *Deering* teaches splitting a graphical data stream in order to route different portions of the data stream to different “rendering units 150 A-D.” See Figure 3 and column 11, lines 25-28. In such a configuration, each “rendering unit 150 A-D” appears to render only a portion of the overall image displayed by a display device. Such configurations of *Pesto* and *Deering* teach against the recited claim elements where a “first graphical pipeline” and a “second graphical pipeline” are both interfaced with a “compositor” that is also interfaced with a “display device,” wherein the “graphical data rendered by said first graphical pipeline *entirely defines* said image to be displayed” by the display device. (Emphasis added). Thus, upon reading *Pesto* and *Deering*, one of ordinary skill in the art would be discouraged from following the path taken by Applicants, and Applicants submit that it is improper to use *Pesto*

and *Deering* to reject pending claim 28 under 35 U.S.C. §103. Accordingly, the 35 U.S.C. §103 rejection of claim 28 should be withdrawn, notwithstanding the allowability of claim 1.

#### **Claim 7**

Claim 7 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Jenkins*, and *Deering*. For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *MacInnis* with *Computer Wall II* and *Deering* is improper. Accordingly, the rejection of claim 7 under 35 U.S.C. §103 should be withdrawn.

#### **Claims 8-10 and 31**

Claims 8-10 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Jenkins*, *Deering*, and *Kohli*. Further, claim 31 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. Applicants submit that the pending dependent claims 8-10 and 31 contain all features of their respective independent claim 7. Further, Applicants assert that *Jenkins* does not satisfy the deficiencies of the cited art discussed above with reference to claims 1 and 7. Therefore, claim 7 is allowable, and pending dependent claims 8-10 and 31 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 7.

As an example, claim 8 recites “wherein each of said plurality of pipeline means of said first rendering means includes a means for mathematically combining a different offset to

coordinate values included in said graphical data from said first graphical command.” As set forth hereinabove in the arguments for allowance of claim 2, *MacInnis* discloses techniques that adjust the color values of pixel. However, such techniques do not appear to adjust the “coordinate values” of the pixels. Further, at column 31, lines 34-64, *MacInnis* discloses a shift operation that appears to shift the address of a group of pixels. Even if it is assumed *arguendo* that such an operation constitutes “mathematically combining” an offset to the “coordinate values” of the pixel, Applicants assert that each pixel appears to be adjusted the same. Thus, *MacInnis* fails to suggest different “pipeline means” that each combine a “*different* offset” to the “coordinate values” of the pixels, as described by claim 8. (Emphasis added). Accordingly, the Office Action fails to establish that the cited art suggests each feature of claim 8, and the rejection of this claim under 35 U.S.C. §103 should be withdrawn, notwithstanding the allowability of claim 7.

#### **Claim 11**

Claim 11 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination is improper. Accordingly, the rejection of claim 11 under 35 U.S.C. §103 should be withdrawn.

#### **Claims 12-14, 19, 20, and 32**

Claims 12, 19, and 32 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. Furthermore, Claim 20 presently stands rejected in the Office Action under

35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II* and in further view of *Deering* and *Dachille*. In addition, claims 13 and 14 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Jenkins*, *Deering*, and *Kohli*. Applicants submit that the pending dependent claims 12-14, 19, 20, and 32 contain all features of their respective independent claim 11. Further, Applicants assert that *Jenkins* and *Dachille* do not satisfy the deficiencies of the cited art discussed above with reference to claim 1 and 11. Therefore, claim 11 is allowable, and pending dependent claims 12-14, 19, 20, and 32 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 11.

For example, claim 12 recites “wherein said rendering further comprises mathematically combining different offsets with coordinate values included in said graphical data from said single graphical command.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 2, Applicants assert that the foregoing features of claim 12 are not suggested by the cited art. Accordingly, the 35 U.S.C. §103 of claim 12 should be withdrawn, notwithstanding the allowability of claim 11.

In addition, claim 20 recites the “method of claim 12, wherein said combining causes said compositing to jitter enhance said image.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 17, Applicants assert that the foregoing features of claim 20 are not suggested by the cited art. Accordingly, the 35 U.S.C. §103 of claim 20 should be withdrawn, notwithstanding the allowability of claim 11.

### **Claim 21**

Claim 21 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination is improper. Accordingly, the rejection of claim 21 under 35 U.S.C. §103 should be withdrawn.

### **Claims 22-24, and 33-36**

Claims 34-36 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. Further, claims 23, 24, and 33 presently stand rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Jenkins*, and *Deering*, and claim 22 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Deering*, and *Dachille*. Applicants submit that the pending dependent claims 22-24, and 33-36 contain all features of their respective independent claim 21. Further, Applicants assert that *Jenkins* and *Dachille* do not satisfy the deficiencies of the cited art discussed above with reference to claim 1 and 21. Therefore, claim 21 is allowable, and pending dependent claims 22-24, and 33-36 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 21.

For example, claim 22 recites wherein each of said plurality of graphical pipelines of said one graphical acceleration unit is configured to mathematically combine a different offset to corresponding coordinate values of graphical data.” For at least the reasons set forth

hereinabove in the arguments for allowance of claim 2 and 17, Applicants assert that the foregoing features of claim 22 are not suggested by the cited art. Accordingly, the 35 U.S.C. §103 of claim 22 should be withdrawn, notwithstanding the allowability of claim 21.

In addition, claim 23 recites “wherein each of said plurality of graphical pipelines of said one graphical acceleration unit is configured to render a different portion of said three-dimensional graphical object.” Applicants respectfully assert that such features are not suggested by the cited art.

In this regard, it is apparently alleged in the Office Action that the foregoing features of claim 23 are suggested by *Deering*. Applicants assert that *Deering* teaches a “control unit” that splits a graphical data stream such that each of a plurality of “rendering units 150 A-D” process and “super-sample” different portions of the graphical data stream. See Figure 3, column 11, lines 24-27 and lines 40-45, and column 12, lines 44-47. However, *Deering* does not appear to specify or elaborate on the manner in which the graphical data stream is split by the “control unit,” and *Deering*, in particular, fails to suggest that each of the “rendering units 150 A-D” processes and “super-samples” a different portion of the *same* “three-dimensional graphical object.” Moreover, Applicants assert that neither *Deering* nor any of the other cited art references suggest at least the features of claim 23 recited above, and the 35 U.S.C. §103 of claim 23 should be withdrawn, notwithstanding the allowability of claim 21.

Further, claim 24 recites “wherein each of said graphical pipelines of said one graphical acceleration unit is configured to render and super sample a different portion of said three-dimensional graphical object.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 23, Applicants assert that the foregoing features of claim 24 are not suggested by the cited art. Accordingly, the 35 U.S.C. §103 of claim 24 should be withdrawn, notwithstanding the allowability of claim 21.

Also, claim 33 recites “an interface configured to transmit, to *each* of said plurality of graphical pipelines, *each* three-dimensional graphical command received by said one graphical acceleration unit.” (Emphasis added). The Office Action apparently alleges that the foregoing features of claim 33 are suggested by *Deering*. *Deering* teaches that a “control unit” splits a graphical data stream and routes different portions of the graphical data stream to a plurality of “rendering units 150 A-D.” See Figure 3, and column 11, lines 24-27 and lines 40-45.

However, there is nothing in *Deering* to suggest that *each* “three-dimensional graphical command” received by the “control unit” is routed to *each* of a plurality of “rendering units 150 A-D.” Moreover, Applicants submit that neither *Deering* nor any of the other cited art references suggest at least the features of claim 33 recited above. Accordingly, the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 33, and the 35 U.S.C. §103 of claim 33 should be withdrawn, notwithstanding the allowability of claim 21.

Further, claim 34 recites “wherein said interface is coupled to each of said plurality of pipelines via a different local area network (LAN) connection.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 26, Applicants assert that the foregoing features of claim 34 are not suggested by the cited art. Accordingly, the 35 U.S.C. §103 of claim 34 should be withdrawn, notwithstanding the allowability of claim 21.

In addition, claim 36 recites “wherein said interface is coupled to each of said plurality of pipelines via a different local area network (LAN) connection.” For at least the reasons set forth hereinabove in the arguments for allowance of claim 26, Applicants assert that the foregoing features of claim 36 are not suggested by the cited art. Accordingly, the 35 U.S.C. §103 of claim 36 should be withdrawn, notwithstanding the allowability of claim 21.

### Claim 25

Claim 25 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II*, *Firester*, *Pesto*, *Kohli*, and *Deering*. Claim 25 presently reads as follows:

25. A single logical screen (SLS) graphical display method, comprising:  
receiving a graphical data defining an image;  
displaying said image via a plurality of display devices as a single logical screen; and  
for each of said display devices, rendering in parallel a different portion of said graphical data and compositing said rendered portion,  
wherein said rendering comprises ***rendering, in parallel for a single one of said display devices, at least a portion of a three-dimensional graphical object via a plurality of graphical pipelines.*** (Emphasis added).

Applicants respectfully assert that the cited art fails to teach or suggest at least the features of claim 25 highlighted hereinabove.

In this regard, it is alleged in the Office Action that “MacInnis does not disclose rendering in parallel, 3D object. Deering teaches configured to receive, process and/or render portions of a 3D object (pipelined, clipped, super-sampled 3D objects in portions in parallel).” Applicants assert that *Deering* teaches a “control unit” for splitting a graphical data stream such that each of a plurality of “rendering units 150 A-D” processes a different portion of the graphical data stream. See Figure 3, column 11, lines 24-27 and lines 40-45, and column 12, lines 44-47. However, *Deering* fails to suggest that multiple ones of the “rendering units 150 A-D” process the *same* “three-dimensional graphical object.” Moreover, Applicants submit that neither *Deering* nor any of the other cited art references suggest at least the features of claim 25 highlighted hereinabove. Accordingly, the 35 U.S.C. §103 of claim 25 is improper and should be withdrawn for at least this reason.

In addition, for at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants respectfully assert that the alleged combination of *MacInnis*, *Computer*



*Wall II, Firester, Pesto, Kohli, and Deering* is improper. Accordingly, the rejection of claim 25 under 35 U.S.C. §103 should be withdrawn.

### **Claim 37**

Claim 37 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Computer Wall II, Firester, Pesto, Kohli, and Deering*. Applicants submit that the pending dependent claim 37 contains all features of its respective independent claim 25. Since claim 25 should be allowed, as argued hereinabove, pending dependent claim 37 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

In addition, claim 37 recites “transmitting, to each of said graphical pipelines, each three-dimensional graphical command having graphical data to be rendered by said single one of said display devices.” Applicants respectfully assert that the foregoing features of claim 37 are not suggested by the cited art.

In this regard, as set forth above in the arguments for allowance of claim 25, *Deering* appears to teach a “control unit” for splitting a graphical data stream such that each of a plurality of “rendering units 150 A-D” processes a different portion of the graphical data stream. See Figure 3, column 11, lines 24-27 and lines 40-45, and column 12, lines 44-47. However, *Deering* fails to teach that *each* of a plurality of the “rendering units 150 A-D” receives *each* “three-dimensional graphical command having graphical data to be rendered” by a single display device. Moreover, Applicants submit that neither *Deering* nor any of the other cited references suggest at least the features of claim 37 recited above. Further, Applicants have reviewed the Office Action and can find no citation in the Office Action for a reference that suggests the foregoing features of claim 37. Accordingly, Applicants respectfully assert that the

Office Action fails to establish a *prima facie* case of obviousness with respect to claim 37, and the 35 U.S.C. §103 rejection of claim 37 should, therefore, be withdrawn.

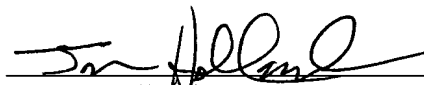
**CONCLUSION**

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

**THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.**

By: \_\_\_\_\_

  
Jon E. Holland  
Reg. No. 41,077  
(256) 704-3900 Ext. 103

Hewlett-Packard Development Company, L.P.  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, Colorado 80527-2400